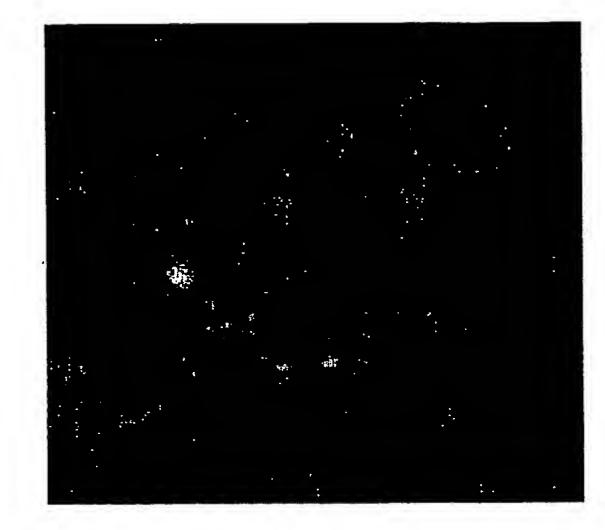
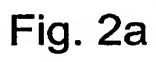


Fig. 1

## **SUBSTITUTE SHEET (RULE 26)**





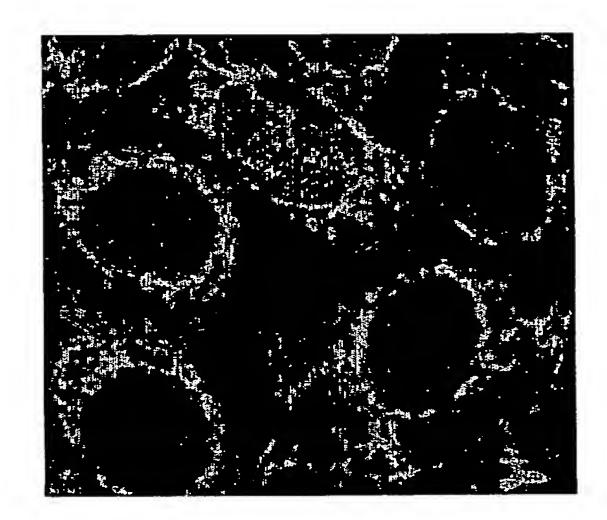


Fig. 2b

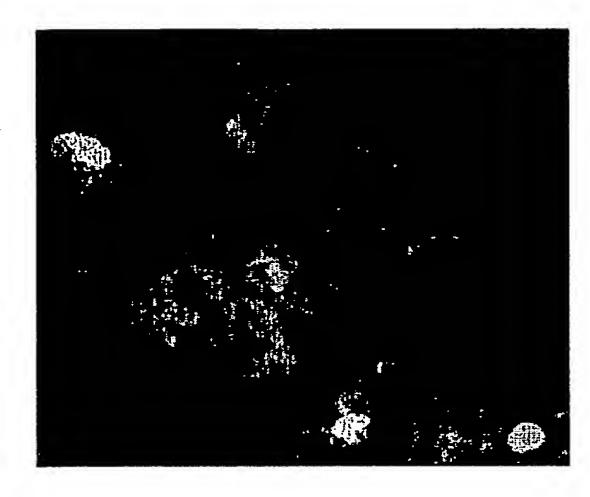




Fig. 3a

Fig. 3b



Fig. 3c

## Figure 4. SEQ ID NO: 1 - Wild Type Cytochrome C (NM\_018947)

Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser 1 ATG GGT GAT GTT GAG AAA GGC AAG AAG ATT TTT ATT ATG AAG TGT TCC

Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn 49 CAG TGC CAC ACC GTT GAA AAG GGA GGC AAG CAC AAG ACT GGG CCA AAT

Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro Gly Tyr Ser 97 CTC CAT GGT CTC TTT GGG CGG AAG ACA GGT CAG GCC CCT GGA TAC TCT

Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly Glu Asp Thr 145 TAC ACA GCC GCC AAT AAG AAC AAA GGC ATC ATC TGG GGA GAG GAT ACA

Leu Met Glu Tyr Leu Glu Asn Pro Lys Lys Tyr Ile Pro Gly Thr Lys
193 CTG ATG GAG TAT TTG GAG AAT CCC AAG AAG TAC ATC CCT GGA ACA AAA

Met Ile Phe Val Gly Ile Lys Lys Glu Glu Arg Ala Asp Leu Ile 241 ATG ATC TTT GTC GGC ATT AAG AAG AAG GAA GAA AGG GCA GAC TTA ATA

.

Ala Tyr Leu Lys Lys Ala Thr Asn Glu 289 GCT TAT CTC AAA AAA GCT ACT AAT GAG

## Figure 5. SEQ ID NO: 2 - Wild Type Cytochrome C (NM\_018947)

Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser 17
Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn 33
Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro Gly Tyr Ser 49
Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly Glu Asp Thr 65
Leu Met Glu Tyr Leu Glu Asn Pro Lys Lys Tyr Ile Pro Gly Thr Lys 81
Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala Asp Leu Ile 97
Ala Tyr Leu Lys Lys Ala Thr Asn Glu

WO 2005/058960 PCT/GB2004/005317

Figure 6. SEQ ID NO: 3 TriGFP-cytochrome C K72A

Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val ATG AGT AAA GGA GAA CAT TIC ACT GGA GIT GIC CCA ATT CIT GIT 1 Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu GAA TTA GAT GGT GAT GTT AAT GGG CAC AAA TTT TCT GTC AGT GGA GAG 49 Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys GGT GAA GGT GAT GCA ACA TAC GGA AAA CTT ACC CTT AAA TTT ATT TGC 97 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu ACT ACT GGA AAA CTA CCT GTT CCA TGG CCA ACA CTT GTC ACT ACT CTC 145 Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg TCT TAT GGT GTT CAA TGC TTT TCA AGA TAC CCA GAT CAT ATG AAA CGG 193 His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg CAT GAC TIT TIC AAG AGT GCC ATG CCC GAA GGT TAT GTA CAG GAA AGA 241 Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val ACT ATA TTT TTC AAA GAT GAC GGG AAC TAC AAG ACA CGT GCT GAA GTC 289 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile AAG TTT GAA GGT GAT ACC CTT GTT AAT AGA ATC GAG TTA AAA GGT ATT 337 Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn GAT TTT AAA GAA GAT GGA AAC ATT CTT GGA CAC AAA TTG GAA TAC AAC 385 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 433 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA GGC GTT 481 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro CAA CTA GCA GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT 529 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser GTC CTT TTA CCA GAC AAC CAT TAC CTG TCC ACA CAA TCT GCC CTT TCG 577 Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val AAA GAT CCC AAC GAA AAG AGA GAC CAC ATG GTC CTT CTT GGC TTT GTA 625 Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys Leu Glu ACA GCT GCT GGG ATT ACA CAT GGC ATG GAT GAA CTA TAC AAA CTC GAG 673 Asn Ser Thr Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met AAT TCG ACC ATG GGT GAT GTT GAG AAA GGC AAG AAG ATT TTT ATT ATG 721 Lys Cys Ser Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr AAG TGT TCC CAG TGC CAC ACC GTT GAA AAG GGA GGC AAG CAC AAG ACT 769 Gly Pro Asn Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro GGG CCA AAT CTC CAT GGT CTC TTT GGG CGG AAG ACA GGT CAG GCC CCT 817 Gly Tyr Ser Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly WO 2005/058960 PCT/GB2004/005317 8/18

 $\cdot$ 

Glu Asp Thr Leu Met Glu Tyr Leu Glu Asn Pro Ala Lys Tyr Ile Pro GAG GAT ACA CTG ATG GAG TAT TTG GAG AAT CCC GCC AAG TAC ATC CCT

Gly Thr Lys Met Ile Phe Val Gly Ile Lys Lys Glu Glu Arg Ala GGA ACA AAA ATG ATC TTT GTC GGC ATT AAG AAG AAG GAA GAA AGG GCA

Asp Leu Ile Ala Tyr Leu Lys Lys Ala Thr Asn Glu

GAC TTA ATA GCT TAT CTC AAA AAA GCT ACT AAT GAG

Figure 7: SEQ ID NO: 4 - triGFP-cytochrome C K72A

1 Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val 17 Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu 33 Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys 49 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu 65 Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg 81 His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg 97 Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val 113 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile 129 Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn 145 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 161 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val 177 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro 193 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser 209 Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val 225 Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys Leu Glu 241 Asn Ser Thr Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr 273 Gly Pro Asn Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro 289 Gly Tyr Ser Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly 305 Glu Asp Thr Leu Met Glu Tyr Leu Glu Asn Pro Ala Lys Tyr Ile Pro 321 Gly Thr Lys Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala 337 Asp Leu Ile Ala Tyr Leu Lys Lys Ala Thr Asn Glu

WO 2005/058960 PCT/GB2004/005317

Figure 8. SEQ ID NO: 5 - Cytochrome C (K72A) - triGFP Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser 1 ATG GGT GAT GTT GAG AAA GGC AAG AAG ATT TTT ATT ATG AAG TGT TCC Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn 49 CAG TGC CAC ACC GTT GAA AAG GGA GGC AAG CAC AAG ACT GGG CCA AAT Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro Gly Tyr Ser 97 CTC CAT GGT CTC TTT GGG CGG AAG ACA GGT CAG GCC CCT GGA TAC TCT Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly Glu Asp Thr 145 TAC ACA GCC GCC AAT AAG AAC AAA GGC ATC ATC TGG GGA GAG GAT ACA Leu Met Glu Tyr Leu Glu Asn Pro Ala Lys Tyr Ile Pro Gly Thr Lys 193 CTG ATG GAG TAT TTG GAG AAT CCC GCC AAG TAC ATC CCT GGA ACA AAA Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala Asp Leu Ile 241 ATG ATC TTT GTC GGC ATT AAG AAG AAG GAA GAA AGG GCA GAC TTA ATA Ala Tyr Leu Lys Lys Ala Thr Asn Glu Gly Arg Pro Gly Met Ser Lys 289 GCT TAT CTC AAA AAA GCT ACT AAT GAG GGT CGA CCC GGG ATG AGT AAA Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp 337 GGA GAA GAA CTT TTC ACT GGA GTT GTC CCA ATT CTT GTT GAA TTA GAT Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly 385 GGT GAT GTT AAT GGG CAC AAA TTT TCT GTC AGT GGA GAG GGT GAA GGT Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly 433 GAT GCA ACA TAC GGA AAA CTT ACC CTT AAA TTT ATT TGC ACT ACT GGA Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu Ser Tyr Gly 481 AAA CTA CCT GTT CCA TGG CCA ACA CTT GTC ACT ACT CTC TCT TAT GGT Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg His Asp Phe 529 GTT CAA TGC TTT TCA AGA TAC CCA GAT CAT ATG AAA CGG CAT GAC TTT Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe 577 TTC AAG AGT GCC ATG CCC GAA GGT TAT GTA CAG GAA AGA ACT ATA TTT Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu 625 TTC AAA GAT GAC GGG AAC TAC AAG ACA CGT GCT GAA GTC AAG TTT GAA Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys 673 GGT GAT ACC CTT GTT AAT AGA ATC GAG TTA AAA GGT ATT GAT TTT AAA Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser 721 GAA GAT GGA AAC ATT CTT GGA CAC AAA TTG GAA TAC AAC TAT AAC TCA His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val 769 CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA ATC AAA GTT Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val Gln Leu Ala

817 AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA GGC GTT CAA CTA GCA

Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu

## WO 2005/058960 PCT/GB2004/005317 11/18

865 GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT GTC CTT TTA

Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys Asp Pro 913 CCA GAC AAC CAT TAC CTG TCC ACA CAA TCT GCC CTT TCG AAA GAT CCC

Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val Thr Ala Ala 961 AAC GAA AAG AGA GAC CAC ATG GTC CTT CTT GGC TTT GTA ACA GCT GCT

Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys 1009 GGG ATT ACA CAT GGC ATG GAT GAA CTA TAC AAA

Figure 9. SEQ ID NO: 6 - Cytochrome C (K72A) - triGFP 1 Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser 17 Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro Gly Tyr Ser 49 Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly Glu Asp Thr 65 Leu Met Glu Tyr Leu Glu Asn Pro Ala Lys Tyr Ile Pro Gly Thr Lys 81 Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala Asp Leu Ile 97 Ala Tyr Leu Lys Lys Ala Thr Asn Glu Gly Arg Pro Gly Met Ser Lys 113 Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly 145 Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly 161 Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu Ser Tyr Gly 177 Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg His Asp Phe 193 Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe 209 Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu 225 Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys 241 Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser 257 His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val 273 Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val Gln Leu Ala 289 Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu 305 Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys Asp Pro 321 Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val Thr Ala Ala 337 Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys

13/18

Figure 10. SEQ ID NO: 7 - TriGFP- wild type cytochrome C

Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val ATG AGT AAA GGA GAA GAA CTT TTC ACT GGA GTT GTC CCA ATT CTT GTT Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu GAA TTA GAT GGT GAT GTT AAT GGG CAC AAA TTT TCT GTC AGT GGA GAG 49 Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys GGT GAA GGT GAT GCA ACA TAC GGA AAA CTT ACC CTT AAA TTT ATT TGC 97 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu ACT ACT GGA AAA CTA CCT GTT CCA TGG CCA ACA CTT GTC ACT ACT CTC 145 Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg TCT TAT GGT GTT CAA TGC TTT TCA AGA TAC CCA GAT CAT ATG AAA CGG 193 His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg CAT GAC TIT TIC AAG AGT GCC ATG CCC GAA GGT TAT GTA CAG GAA AGA 241 Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val ACT ATA TTT TTC AAA GAT GAC GGG AAC TAC AAG ACA CGT GCT GAA GTC 289 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile AAG TTT GAA GGT GAT ACC CTT GTT AAT AGA ATC GAG TTA AAA GGT ATT 337 Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn GAT TTT AAA GAA GAT GGA AAC ATT CTT GGA CAC AAA TTG GAA TAC AAC 385 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly TAT AAC TCA CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA 433 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val ATC AAA GTT AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA GGC GTT 481 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro CAA CTA GCA GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT 529 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser GTC CTT TTA CCA GAC AAC CAT TAC CTG TCC ACA CAA TCT GCC CTT TCG 577 Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val AAA GAT CCC AAC GAA AAG AGA GAC CAC ATG GTC CTT CTT GGC TTT GTA 625 Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys Leu Glu ACA GCT GCT GGG ATT ACA CAT GGC ATG GAT GAA CTA TAC AAA CTC GAG 673 Asn Ser Thr Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met AAT TCG ACC ATG GGT GAT GTT GAG AAA GGC AAG AAG ATT TTT ATT ATG 721 Lys Cys Ser Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr AAG TGT TCC CAG TGC CAC ACC GTT GAA AAG GGA GGC AAG CAC AAG ACT 769 Gly Pro Asn Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro GGG CCA AAT CTC CAT GGT CTC TTT GGG CGG AAG ACA GGT CAG GCC CCT 817 Gly Tyr Ser Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly WO 2005/058960 PCT/GB2004/005317 14/18

865	GGA	TAC	TCT	TAC	ACA	GCC	GCC	AAT	AAG	AAC	AAA	GGC	ATC	ATC	TGG	GGA
913															Ile ATC	
961	_		_												Arg AGG	
009	-	Leu			_		_									

Figure 11. SEQ ID NO: 8 - TriGFP-wild type cytochrome C

1 Met Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val 17 Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu 33 Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys 49 Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu 65 Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg 81 His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg 97 Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val 113 Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile 129 Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn 145 Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly 161 Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val 177 Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro 193 Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser 209 Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val 225 Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys Leu Glu 241 Asn Ser Thr Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr 273 Gly Pro Asn Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro 289 Gly Tyr Ser Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly 305 Glu Asp Thr Leu Met Glu Tyr Leu Glu Asn Pro Lys Lys Tyr Ile Pro 321 Gly Thr Lys Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala 337 Asp Leu Ile Ala Tyr Leu Lys Lys Ala Thr Asn Glu

Pierro 12 CPO ID NO. 9 - Wild type Cytochrome C-triCPD

Figure 12. SEQ ID NO: 9 - Wild type Cytochrome C-triGFP Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser 1 ATG GGT GAT GTT GAG AAA GGC AAG AAG ATT TTT ATT ATG AAG TGT TCC Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn 49 CAG TGC CAC ACC GTT GAA AAG GGA GGC AAG CAC AAG ACT GGG CCA AAT Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro Gly Tyr Ser 97 CTC CAT GGT CTC TTT GGG CGG AAG ACA GGT CAG GCC CCT GGA TAC TCT Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly Glu Asp Thr 145 TAC ACA GCC GCC AAT AAG AAC AAA GGC ATC ATC TGG GGA GAG GAT ACA Leu Met Glu Tyr Leu Glu Asn Pro Lys Lys Tyr Ile Pro Gly Thr Lys 193 CTG ATG GAG TAT TTG GAG AAT CCC AAG AAG TAC ATC CCT GGA ACA AAA Met Ile Phe Val Gly Ile Lys Lys Lys Glu Glu Arg Ala Asp Leu Ile 241 ATG ATC TTT GTC GGC ATT AAG AAG AAG GAA GAA AGG GCA GAC TTA ATA Ala Tyr Leu Lys Lys Ala Thr Asn Glu Gly Arg Pro Gly Met Ser Lys 289 GCT TAT CTC AAA AAA GCT ACT AAT GAG GGT CGA CCC GGG ATG AGT AAA Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp 337 GGA GAA GAA CTT TTC ACT GGA GTT GTC CCA ATT CTT GTT GAA TTA GAT Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly 385 GGT GAT GTT AAT GGG CAC AAA TTT TCT GTC AGT GGA GAG GGT GAA GGT Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly 433 GAT GCA ACA TAC GGA AAA CTT ACC CTT AAA TTT ATT TGC ACT ACT GGA Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu Ser Tyr Gly 481 AAA CTA CCT GTT CCA TGG CCA ACA CTT GTC ACT ACT CTC TCT TAT GGT Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg His Asp Phe 529 GTT CAA TGC TTT TCA AGA TAC CCA GAT CAT ATG AAA CGG CAT GAC TTT Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe 577 TTC AAG AGT GCC ATG CCC GAA GGT TAT GTA CAG GAA AGA ACT ATA TTT Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu 625 TTC AAA GAT GAC GGG AAC TAC AAG ACA CGT GCT GAA GTC AAG TTT GAA Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys 673 GGT GAT ACC CTT GTT AAT AGA ATC GAG TTA AAA GGT ATT GAT TTT AAA Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser 721 GAA GAT GGA AAC ATT CTT GGA CAC AAA TTG GAA TAC AAC TAT AAC TCA His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val 769 CAC AAT GTA TAC ATC ATG GCA GAC AAA CAA AAG AAT GGA ATC AAA GTT Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Gly Val Gln Leu Ala 817 AAC TTC AAA ATT AGA CAC AAC ATT GAA GAT GGA GGC GTT CAA CTA GCA

Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu

•

865 GAC CAT TAT CAA CAA AAT ACT CCA ATT GGC GAT GGC CCT GTC CTT TTA

Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys Asp Pro 913 CCA GAC AAC CAT TAC CTG TCC ACA CAA TCT GCC CTT TCG AAA GAT CCC

Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val Thr Ala Ala 961 AAC GAA AAG AGA GAC CAC ATG GTC CTT CTT GGC TTT GTA ACA GCT GCT

Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys 1009 GGG ATT ACA CAT GGC ATG GAT GAA CTA TAC AAA Figure 13. SEQ ID NO: 10 - Wild Type Cytochrome C-triGFP

1 Met Gly Asp Val Glu Lys Gly Lys Lys Ile Phe Ile Met Lys Cys Ser 17 Gln Cys His Thr Val Glu Lys Gly Gly Lys His Lys Thr Gly Pro Asn Leu His Gly Leu Phe Gly Arg Lys Thr Gly Gln Ala Pro Gly Tyr Ser 49 Tyr Thr Ala Ala Asn Lys Asn Lys Gly Ile Ile Trp Gly Glu Asp Thr 65 Leu Met Glu Tyr Leu Glu Asn Pro Lys Lys Tyr Ile Pro Gly Thr Lys 81 Met Ile Phe Val Gly Ile Lys Lys Glu Glu Arg Ala Asp Leu Ile 97 Ala Tyr Leu Lys Lys Ala Thr Asn Glu Gly Arg Pro Gly Met Ser Lys 113 Gly Glu Glu Leu Phe Thr Gly Val Val Pro Ile Leu Val Glu Leu Asp 129 Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly Glu Gly Glu Gly 145 Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys Thr Thr Gly 161 Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu Ser Tyr Gly 177 Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Arg His Asp Phe 193 Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg Thr Ile Phe 209 Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val Lys Phe Glu 225 Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile Asp Phe Lys 241 Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr Asn Tyr Asn Ser 257 His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn Gly Ile Lys Val 273 Asn Phe Lys Ile Arq His Asn Ile Glu Asp Gly Gly Val Gln Leu Ala 289 Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro Val Leu Leu 305 Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser Lys Asp Pro 321 Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe Val Thr Ala Ala 337 Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys